OBJECTIVES: Economic evaluations in oncology require estimating survival bene-
fits which is to obtain quality adjusted life years (QALYs) and incremental cost-
effectiveness ratios (ICERs). However, few guidelines exist on how survival data should be analyzed and extrapolated to obtain full survival benefit for eco-
nomical evaluation. A recent NICE Decision Support Unit document details an algo-
rithm for selecting survival models for economic evaluations alongside clinical trials. The objective of this study was to determine how different models lead to varying survival estimates and how survival data can be systematically assessed in a patient registry using patient-level data. METHODS: Data from the National Cancer Institute’s Surveillance Epidemiology and End Re-

teults (SEER) were used. Surgical treatment for prostate cancer was used to illustrate the methods, but the approach is transferrable to other cancers and treatment strategies. Patients diagnosed with prostate cancer (FC) between 1991 and 2001 were included, the sample was limited to stage IV PC patients. Survival between surgery and non-surgery group was estimated via Kaplan Meier, parametric and semi-parametric methods. Several model fit criteria’s such as visual inspection, log-cumulative hazard plots, Cox-Snell residuals, Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC) along with proportionality assumption tests were used to select appropriate method and distribution. Observed and ex-

trapolated mean estimates were calculated and compared. RESULTS: Analysis in-
dicated that survival time and benefit distribution differed based on the model selected. Our case example demonstrated the best fit was Weibull and exponential distri-
butions – however, consideration must also be given to the tail in any extrapolation of the data. Discussion: A reduction in uncertainty surrounding the inferred CE thresholds. This was especially the

CASE OF STATIN IN SECONDARY PREVENTION

MARGINAL STRUCTURAL MODELS USED IN ESTIMATING COST-EFFECTIVENESS ON PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) WITH A NOVEL APPROACH.

OBJECTIVES: To investigate the merits and challenges with calibrating Bayesian multiple treatment comparison meta-analysis (MTC) with cost-effectiveness (CE) analysis, in particular, construction of multiple cost-effectiveness acceptability curves and cost-effectiveness frontiers. METHODS: We calibrated a Bayesian MTC of pharmacological treatments for chronic obstructive pulmonary disease (COPD) and other respiratory diseases on a CE markov model. We simulated 10000 observations and derived multiple cost-
effectiveness acceptability curves for each of the treatments as well as the cost-
effectiveness frontier. We separately repeated the analyses based on pair-wise meta-analysis estimates of treatment effectiveness. We compared the two ap-
proaches with respect to precision and inferred reasonable CE thresholds. RESULTS: The MTC approach generally yielded higher precision, and thus, had higher certainty surrounding the inferred CE thresholds. This was especially the case for comparisons with treatments in the extended dominance region, but close to the CE frontier. CONCLUSIONS: Calibration of Bayesian multiple treatment comparison meta-analysis and Bayesian multiple cost-effectiveness ac-
ceptability curves appears to improve precision compared with the conventional approach.

OBJECTIVES: Cost-effectiveness assessment using real-life data is important to im-

NOTE: This content is for educational purposes only. Always consult with a healthcare professional before making any significant changes to your health regimen.